

IR810S

Explosion-protected model Infrared Gas Analyzer

Improve OPEX by stability and usability



■ Explosion-protected NDIR Analyzer for ZONE1 area

Suitable for hazardous area CEMS and Combustion control

Can select purge air flow to optimize utility usage

■ Build-in Active zero-drift cancellation mechanism

Zero-drift caused by measuring cell contamination is corrected

Contribute to reduce OPEX* by stable measurement

*Operating Expense

■ Highly visible HMI

Full-color touch panel realizes easy operation

You can directly go to calibration menu by using one-touch calibration menu

■ Max 5 gas components measurement

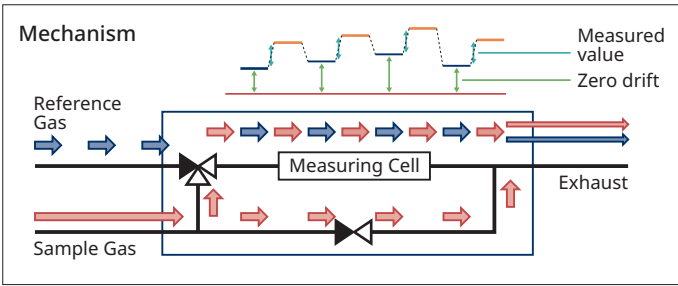
O₂ and 4 gas components from NO/SO₂/CO/CO₂/CH₄

Can connect an O₂ analyzer by using 4-20 mA analog input



IR810S

Active zero-drift cancellation mechanism



Gas analyzers have been suffered from zero point drift caused by factors such as the built up of dirt on the instrument and it required frequent cleaning and calibration. With IR810S analyzer, an Active zero-drift cancellation mechanism is built in that is able to correct changes in the zero-point. This is accomplished by alternately measuring a sample gas and a reference gas. Thanks to this function, maintenance needs to be performed less frequently, thereby saving time and effort and reducing costs.

Specification

Explosion-protected model Infrared Gas Analyzer IR810S

Measurement principle	NO/SO ₂ /CO/CO ₂ /CH ₄	Non-dispersive infrared method (Single light source-single beam)
	O ₂	Build-in paramagnetic type or external analyzer (4-20 mA)
Measurement range	NO	0-50 ppm to 0-5000 ppm (Optional range: 0-50 to 0-199 ppm)
	SO ₂	0-50 ppm to 0-5000 ppm, 0-2 vol% to 0-10 vol% (Optional range: 0-50 to 0-199 ppm)
	CO	0-50 ppm to 0-5000 ppm, 0-2 vol% to 0-100 vol% (Optional range: 0-50 to 0-199 ppm, 0-51 vol% to 0-100 vol%)
	CO ₂	0-1000 ppm to 100 vol% (Optional range: 0-1000 to 0-4999 ppm, 0-26 to 0-100 vol%)
	CH ₄	0-2 to 0-100 vol% (Optional range: 0-51 to 0-100 vol%)
	O ₂	0-5 to 0-100 vol% *0.25 to 0-100 vol% for hydrogen background
Sample gas / Reference gas conditions	Flow rate: 0.5 to 1.0 L/min Temperature: 0 to 50°C Pressure: 4.9 to 9.8 kPa Moisture: Below a level where saturation occurs at 5°C (No condensation) *Sample gas: No other corrosive gas *Reference gas: Atmosphere, Instrument air or N ₂ Impurities other than CO ₂ should be 0.1% of minimum measurement range or less When the measurement range of the CO ₂ meter is 5 vol% or less, be sure to use N ₂ as the reference gas.	
Purging air	Instrument air flow rate: 20 L/min or 50 L/min or 90 L/min Depends on sample gas component.	
Analog output signal	Number of outputs: 4 Isolated output: 4-20 mA DC (Max load capacity 550 Ω) Output range: any range in selected specification	
Analog input signal	Number of input points: 1 point for connection to external oxygen analyzer Input signal: 4-20 mA DC	
Contact output	Output points: 11 points (1a), 6 points (1c) Function: Instrument error, Calibration error, Automatic calibration in progress, Solenoid valve drive CH1 to CH5 for automatic calibration, Range identification CH1 to CH5, Blowback, alarms 1 to 6, Peak alarm output, Maintenance in progress, Power status	
Contact output for Annunciator	Output points: 1 point (1c) Function: Outputting the state of the purge air pressure in the analyzer	

Contact input	Input points: 8 points (No-voltage or Voltage contact input) Functions: Remote hold, average value reset, automatic calibration start, simple zero calibration start, automatic validation start, remote range changeover, blowback, contact for ZR802G, calibration error for ZR802G
Digital communications	RS-485 (Modbus RTU)
Functions	Output signal hold, Range changeover, Range identification signal, Blowback, Auto calibration, Auto zero calibration, Auto validation, Contact output during auto-calibration/validation, High/low limit alarm, Instrument error contact output, Calibration error contact output, Override
Enclosure	Steel casing, for indoor use
Type of protection	Pressurized enclosure and flameproof enclosure ATEX: II 2 G Ex db pxb IIB + H2 T4 Gb IECEX: Ex db pxb IIB + H2 T4 Gb
Ambient temperature	0 to 45°C
Dimensions (W x D x H)	492 x 243 x 947 mm
Weight	Approx. 35 kg
Supply voltage	100 to 240V AC 50/60 Hz

Characteristics

IR810S		
Repeatability	NO/SO ₂ /CO/CO ₂ /CH ₄	±0.5% F.S. (±1% F.S. when the optional range is included)
	O ₂	±0.5% F.S.
Linearity		±1.0% F.S.
Zero drift	NO/SO ₂ /CO/CO ₂ /CH ₄	±1.0% F.S./week (±2% F.S. when the optional range is included)
	O ₂	±2.0% F.S./week
Span drift		±2.0% F.S./week
Response time (90% F.S. response)		30 sec. or less

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Represented by:

ANA-02E

Subject to change without notice.

[Ed:01/b]

Printed in Japan, 306(KP)

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